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Activity 3 Documentation

Creating Dockerfile

1.) Created the Dockerfile and added some commands

```
Dockerfile
1   FROM ubuntu:16.04
2   LABEL author="Krizner Urmeneta"
3
4   RUN apt-get update
5   RUN apt-get install -y iputils-ping
6
```

Building the Dockerfile

1.) Use the 'docker build' command to build Docker images from the Dockerfile.

```
PS C:\Users\Krizzy\Documents\3rdYear2ndSem\CoE197\Week 10\ME8_Containerization_and_Docker\3-building_images> docker images
REPOSITORY    TAG        IMAGE ID        CREATED        SIZE
ubuntu        16.04      aefd7f02ae24    3 weeks ago    134MB
PS C:\Users\Krizzy\Documents\3rdYear2ndSem\CoE197\Week 10\ME8_Containerization_and_Docker\3-building_images> docker build -t 'krizner/ping' .
[+] Building 138.8s (7/7) FINISHED
 => [internal] load build definition from Dockerfile
 => => transferring dockerfile: 148B
 => [internal] load .dockerignore
 => => transferring context: 2B
 => [internal] load metadata for docker.io/library/ubuntu:16.04
 => CACHED [1/3] FROM docker.io/library/ubuntu:16.04
 => [2/3] RUN apt-get update
 => [3/3] RUN apt-get install -y iputils-ping
 => exporting to image
 => => exporting layers
 => => writing image sha256:0970860c817bbe8010a90c4857a9532ccedab9883d6ed186105510c5a01f1f87
 => => naming to docker.io/krizner/ping

Use 'docker scan' to run Snyk tests against images to find vulnerabilities and learn how to fix them
PS C:\Users\Krizzy\Documents\3rdYear2ndSem\CoE197\Week 10\ME8_Containerization_and_Docker\3-building_images> docker images
REPOSITORY      TAG        IMAGE ID        CREATED        SIZE
krizner/ping    latest     0970860c817b    6 minutes ago  169MB
ubuntu          16.04      aefd7f02ae24    3 weeks ago    134MB
PS C:\Users\Krizzy\Documents\3rdYear2ndSem\CoE197\Week 10\ME8_Containerization_and_Docker\3-building_images>
```

Optimizing the Dockerfile

1.)Organize the commands to remove fluff

```
Dockerfile                    ×
1   FROM ubuntu:16.04
2   LABEL author="Krizner Urmeneta"
3
4 ▼ RUN apt-get update \
5       && apt-get install -y iputils-ping \
6       && apt-get clean \
7       && cd /var/lib/apt/lists && rm -fr *Release* *Sources* *Packages* \
8       && truncate -s 0 /var/log/*log
9
```

2.) Run 'docker build' again to see the changes in our image.


```
PS C:\Users\Krizzy\Documents\3rdYear2ndSem\CoE197\Week 10\ME8_Containerization_and_Docker\3-building_images> docker images
REPOSITORY     TAG      IMAGE ID       CREATED            SIZE
krizner/ping   latest   6ecddef8e409   About a minute ago  138MB
ubuntu         16.04    aefd7f02ae24   3 weeks ago         134MB
PS C:\Users\Krizzy\Documents\3rdYear2ndSem\CoE197\Week 10\ME8_Containerization_and_Docker\3-building_images>
```

Other Dockerfile directives

1.)Added new directives to automatically run 'ping google.com'.

```
Dockerfile                                        ×
1   FROM ubuntu:16.04
2   LABEL author="Krizner Urmeneta"
3
4   ENV PING_TARGET "google.com"
5
6 ▼ RUN apt-get update \
7        && apt-get install -y iputils-ping \
8        && apt-get clean \
9        && cd /var/lib/apt/lists && rm -fr *Release* *Sources* *Packages* \
10       && truncate -s 0 /var/log/*log
11
12  CMD ["sh", "-c", "ping $PING_TARGET"]
```

```
PS C:\Users\Krizzy\Documents\3rdYear2ndSem\CoE197\Week 10\ME8_Containerization_and_Docker\3-building_images> docker images
REPOSITORY     TAG      IMAGE ID       CREATED        SIZE
krizner/ping   latest   f563d27751ac   57 seconds ago  138MB
ubuntu         16.04    aefd7f02ae24   3 weeks ago     134MB
PS C:\Users\Krizzy\Documents\3rdYear2ndSem\CoE197\Week 10\ME8_Containerization_and_Docker\3-building_images> docker run -it krizner/ping
PING google.com (142.250.204.110) 56(84) bytes of data.
64 bytes from 142.250.204.110: icmp_seq=1 ttl=37 time=149 ms
64 bytes from 142.250.204.110: icmp_seq=2 ttl=37 time=107 ms
64 bytes from 142.250.204.110: icmp_seq=3 ttl=37 time=124 ms
64 bytes from 142.250.204.110: icmp_seq=4 ttl=37 time=104 ms
64 bytes from 142.250.204.110: icmp_seq=5 ttl=37 time=65.1 ms
64 bytes from 142.250.204.110: icmp_seq=6 ttl=37 time=106 ms
64 bytes from 142.250.204.110: icmp_seq=7 ttl=37 time=103 ms
64 bytes from 142.250.204.110: icmp_seq=8 ttl=37 time=99.1 ms
64 bytes from 142.250.204.110: icmp_seq=9 ttl=37 time=113 ms
64 bytes from 142.250.204.110: icmp_seq=10 ttl=37 time=104 ms
64 bytes from 142.250.204.110: icmp_seq=11 ttl=37 time=86.2 ms
^C
--- google.com ping statistics ---
11 packets transmitted, 11 received, 0% packet loss, time 10016ms
rtt min/avg/max/mdev = 65.175/105.923/149.503/19.982 ms
PS C:\Users\Krizzy\Documents\3rdYear2ndSem\CoE197\Week 10\ME8_Containerization_and_Docker\3-building_images>
```